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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/010,672 | 11/30/2001 | Ciuter Chang | K35A0853 | 8677 |

35219 7590 09/29/2003

WESTERN DIGITAL TECHNOLOGIES, INC.
20511 LAKE FOREST DR. -C205
LAKE FOREST, CA 92630

EXAMINER

MILLER, BRIAN E

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2652

DATE MAILED: 09/29/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/010,672

Applicant(s)

CHANG ET AL.

Examiner

Brian E. Miller

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-18, 20-31 and 33-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-18, 20-31, 33-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Claims 1-5, 7-18, 20-31, 33-39 are now pending.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

2. Claims 1-11, 13-24, 26-37, 39 are rejected under 35 U.S.C. 102(e) as being anticipated by Otsuka (US 6,529,346). Otsuka sets forth a slider "S" (mainly elements 10 & 11) for a disk drive (see FIG. 10) as shown in the FIGs. 1-2, including: a transducer 11 provided on the rear center pad 13 (20); the slider having a leading 10a and trailing end 10b; an air bearing surface that is configured to include a shallow recessed surface(s) 12 (10d surrounding the surfaces 12) and a deep recessed surface 15 which forms a negative pressure cavity as known in the art; a leading air bearing region (adjacent 10a); a plurality of insular regions 17 configured to reduce stiction with a disk (re claims 9, 22, 35); wherein the shallow recessed surface being disposed between the air bearing surface and the deep recessed surface; wherein the insular region is bounded by either the shallow recessed surface and/or the deep recessed surface (re claims 4-5, 17-18, 30 & 31); wherein the height differential between the one insular region and the leading air bearing region is less than 4 micro inches, i.e., 30 nm (see col. 9, last line) thus considered "substantially coplanar", (re claims 7, 20, 33); wherein both the air bearing surface and insular region are curved thus forming a radius of curvature (see FIG. 2) (re claims 8, 21, 34); a center rear pad 13 is disposed near the trailing end of the slider (re claims 10, 23, 36); the insular

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regions are shaped at least as a circle (see FIG. 1) (re claims 11, 24, 37) and are formed with a DLC layer (re claims 13, 26, 39).

Claim Rejections - 35 USC § 103

3. Claims 12, 25, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuka. For a description, see the rejection, supra. Although Otsuka does not expressly disclose the surface area of the insular regions being between 100-2000 microns squared, it may encompass this wide range inherently. Irrespective of that however, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided such a range, as it would have been apparent to a skilled artisan that the more insular regions would reduce stiction, but too many would affect flying characteristics of the slider. The motivation would have been: lacking any criticality or any unobvious or unexpected results, the given range of surface area would have been readily encompassed by routine engineering optimization and experimentation.

Response to Amendment

4. Applicant's arguments filed 7/2/03 have been fully considered but they are not persuasive.

A...Applicant's main assertion is that the prior art (to Otsuka) does not show "the leading air bearing region and the 9at least one) insular region are substantially co-planar." As "substantially" is still considered to be a broad term, the Examiner maintains that the teachings of Otsuka would encompass this phraseology, as set forth that the height differential is very small.

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B...Applicant's amendment does overcome the AAPA, however, and these rejections have been withdrawn appropriately.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian E. Miller whose telephone number is (703) 308-2850. The examiner can normally be reached on M-F 7:45am-5:15pm (FF off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

A handwritten signature in black ink, appearing to read "B. Miller", is positioned above the printed name.

Brian E. Miller
Primary Examiner
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bem
September 10, 2003